

*in Purple Case*

# Khaki University of Canada for Soldiers of the Canadian Overseas Forces.

*Headquarters:*

31, BEDFORD SQUARE, LONDON, W.C. 1



Courses of Study for the First and  
Second Years in the several Faculties.

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This Pamphlet presents an abstract of portions  
of the complete Calendar of the Khaki Univer-  
sity to be issued later.

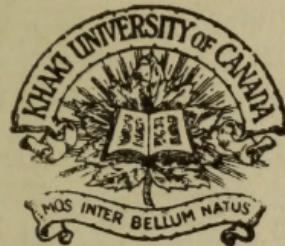
LONDON, DECEMBER, 1918.

*The EDITH and LORNE PIERCE  
COLLECTION of CANADIANA*



*Queen's University at Kingston*

**Khaki University of Canada  
for  
Soldiers of the Canadian  
Overseas Forces.**



*President:*  
**H. MARSHALL TORY, D.Sc., LL.D., F.R.S.C., Etc.**

*Headquarters:*  
**31, BEDFORD SQUARE, LONDON, W.C. 1**

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Courses of Study for the First and  
Second Years in the several Faculties.

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**DECEMBER, 1918.**

L<sup>P</sup>F5012 1918 K452

# **COURSES OF STUDY WHICH ARE EQUIVALENT TO THOSE OF THE FIRST AND SECOND YEARS IN THE UNIVERSITIES OF CANADA.**

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**T**HE following Courses are the equivalent of those which constitute the curriculum of the First and Second Years in the respective Faculties of the Canadian Universities.

Any soldier who completes the work of the first year in any Faculty as set forth below will be allowed by the Canadian Universities to enter the second year of the same Faculty upon his return to Canada. And, similarly, any soldier completing the second year course in any Faculty of the Khaki University will be allowed to enter the third year in the corresponding Faculty in any Canadian University.

Furthermore, any single course, if completed, will be accepted as equivalent to a corresponding course in any Canadian University.

Any subject may be taken separately if desired.

The University may change the text-book in any subject if it is found advisable to do so.

Soldiers who have already completed the work of the second year, may make application to the Director of the Overseas Educational Services (Khaki Universitiy), when courses in the third or fourth years—or post-graduate courses—will be arranged if possible.

Permissive regulations have been passed by Headquarters, and the Director of Educational Services is now prepared to arrange for certain advanced students to attend courses of study in the British Universities or Colleges during the period of demobilization, should they so desire.

Before entering upon any of the following courses of study the student—should he wish to obtain credit with any of the Canadian Universities for the work done—must have passed the Matriculation Examination which admits him the Faculty in which his course of study lies.

The courses of the first and second years in the respective Faculties are as follows :—

## **FACULTY OF ARTS.**

Course leading toward the Degree of B.A.

*First Year.*

English I

Latin I, Greek I (one of these)

French I, German I (one of these)

Geometry

Algebra I

Trigonometry I

History I, The Dominion of Canada—Its Constitution, Resources and Problems (one of these)

*Second Year.*

English II

Latin II, Greek II (one of these)

French II, German II (one of these)

Physics I, Chemistry III, Biology, Geology,  
Analytical Geometry, another language  
(two of these)

History II

Course leading toward the Degree of B.Sc.  
(in Arts).

*First Year.*

English I

French I, German I (one of these)

Geometry

Algebra I

Trigonometry I

Physics I, Biology (one of these)

History I, The Dominion of Canada—Its  
Constitution, Resources and Problems  
(one of these)

*Second Year.*

English II

French II, German II (one of these)

Algebra II

Analytical Geometry

Zoology, Botany III, Geology, Physics II  
(three of these)

Chemistry III

## **FACULTY OF APPLIED SCIENCE**

Course leading toward the Degree of B.Sc.  
(in Engineering).

<i>First Year.</i>	<i>Second Year.</i>
English I	Analytical Geometry
Geometry	Calculus
Algebra II	Mechanics II
Trigonometry II	Graphical Statics
Mechanics I	Drawing II
Descriptive Geometry	Physics II
Drawing I	Chemistry III
Physics I	Mechanics of Machines
	Building Construction
	Surveying (including Field Work)
	Mapping

## **FACULTY OF ARCHITECTURE.**

Courses Leading toward the Degree of  
Bachelor of Architecture.

<i>First Year.</i>	<i>Second Year.</i>
English I	Architectural Drawing
Geometry	History of Architecture
Algebra I	History II
Trigonometry I	Architectural Design
Descriptive Geometry	Building Construction
Drawing I	
Drawing III	
Physics I	
History I	

The subjects mentioned for the Second Year constitute only a portion of the regular

curriculum for this year in the Canadian Universities. Other subjects may be added to complete a full year's work if the need arises.

## **FACULTY OF LAW.**

Whether the student is beginning the study of law, or continuing a course of study already begun, he will first be required to read a small introductory book and an introductory essay, namely :—

Geldart—The Elements of English Law, and Hazeltine, Dr. H. D.—The Nature and Sources of English Law (an essay specially written for the Department of Law in the Khaki University).

He will then proceed to the study of the following subjects :—

### **Part I**

Legal History  
Contracts  
Torts  
Personal Property  
Criminal Law  
Introduction to Equity

### **Part II**

Equity  
English Constitutional History and Law  
Real Property  
Master and Servant  
Evidence  
Commercial Law

## **Part III**

Real Property  
Partnership  
Companies  
Banking Law  
Canadian Constitutional Law  
Private International Law  
Public International Law  
Succession

The Law Societies of some of the Provinces of Canada have stated that they will accept the Certificate of the President of the Khaki University that a soldier has successfully completed a course in any one of these subjects, as satisfying their requirements in the subject in question. Most of the other Provincial Societies have stated that they will give most cordial consideration to any application made to them by such a student. Soldiers should take up the subjects by Parts in the order enumerated.

While Canadian Statute Law, as the Bills of Exchange Act, the Criminal Code, the Dominion Companies Act, the Canadian Evidence Act, and a few nearly uniform Provincial Acts, such as the Wills Act will be studied, no general attempt will be made to teach Provincial Statute Law.

No attempt will be made to teach Practice.

## **FACULTY OF MEDICINE.**

Instruction in a portion of the work of the first year only will be provided in the Khaki University.

The following are the subjects which will be taught:—

- Physics I
- Physics II
- Chemistry III
- Biology
- Osteology

In the case of soldiers who have already completed the medical studies enumerated above and who receive permission from the Military Authorities to leave their respective units during the period of demobilization, the Director of the Overseas Educational Services (Khaki University) will upon application, arrange if possible for such men to continue their courses in one of the British Medical Schools.

## **FACULTY OF THEOLOGY.**

A complete course of instruction in Theology has been arranged under the direction of the Joint Board of the Theological Colleges affiliated with McGill University, Montreal.

Application for such courses as may be desired should be made to the Director of

Theological Studies, Headquarters of the Khaki University, 31, Bedford Square, London, W.C. 1. (See separate announcement.)

## **FACULTY OF AGRICULTURE.**

Course leading toward the Degree of B.S.A.

### *First Year.*

Soils  
Crops  
Livestock  
Feeds and Feeding  
Farm Management  
Farm Engineering  
Botany I  
Chemistry (Agricultural) I  
Dairying I  
English I  
Geology  
Horticulture I  
Physics III  
Poultry I  
Veterinary Science I  
Zoology

### *Second Year.*

Soils  
Crops  
Livestock  
Feeds and Feeding  
Farm Management  
Farm Engineering  
Animal Husbandry  
Bacteriology  
Botany II  
Chemistry (Agricultural) II  
Dairying II  
English II  
Entomology  
Farmer's Woodlot  
Field Husbandry  
Horticulture II  
Physics IV  
Poultry II  
Veterinary Science II

The first six subjects in each of these two years are identical. (See page 30.)

# **DESCRIPTION OF COURSES OF STUDY.**

## **Language and Literature.**

### **ENGLISH.**

**English I**—Composition—Series of 12 Essays.

History of English Literature as in : Long W. J.—English Literature (Ginn & Co.)

The following texts: Dryden—A Song for St. Cecilia's Day, Alexander's Feast ; Pope—Rape of the Lock ; Goldsmith—Deserted Village ; Gray—The Bard, Eton College ; Burns—To a Mouse, A Mans's a Man for a' That ; Wordsworth—Sonnets, Milton, The World is Too Much With Us, On Westminster Bridge, To a Daffodil, To a Skylark ; Scott—Rosabelle, Lochinvar ; Keats—Autumn, To a Nightingale, On a Grecian Urn ; Browning—Songs from Pippa Passes, The Lost Leader, The Boy and the Angel, Prospice ; George Eliot—The Mill on the Floss ; Carlyle—The Hero as Prophet ; Ruskin—Crown of Wild Olive ; Scott—Old Mortality ; Macaulay—Essay on Pitt ; Proctor—Pleasant Ways in Science.

**English II**—Composition—Series of 15 Essays.

The following texts: Shakespeare—Merchant of Venice, Romeo and Juliet, Henry IV. (Parts I and II), Henry V, King John,

Hamlet ; Milton—Paradise Lost (Book I) : Bacon—Selection of Essays ; Steele—Selection ; Addison—Letters to the Spectator ; Johnson—Life of Pope ; Lamb—Essays of Elia ; Macaulay—Essay on Addison, Essay on Hampden, Essay on Sir W. Temple, Essay on Spanish Succession ; Arnold — Selections ; Stevenson — Selections from Virginibus Puerisque.

## FRENCH.

**French I**—French Syntax and Composition, as in Vreeland and Koren (Holt).

The following texts :—Erckmann-Chatrien — Waterloo ; Balzac—Le Colonel Chalbert ; Theophile Gautier — Voyage en Espagne ; Chateaubriand—Aventures du Dernier Abencerrage (Macmillan).

**French II**—French Syntax and Composition, as in Vreeland and Koren.

The following texts :—Corneille—Cinna ; Racine — Britannicus ; Vigny—Cinq-Mars ; Moliere—Le Bourgeoise Gentilhomme ; Hugo — Quatre Vingt-Treize ; Benson—Histoire de la Literature Fran<sup>ç</sup>aise ; Brachet—Historical Grammar of the French Tongue.

## GERMAN.

### German I

German Syntax and Composition, as in Pope—German Composition (Bell & Sons).

Texts : Freytag—Die Journalisten (Ginn & Co.) ; Fulda—Der Talisman (Holt) ; Collman Easy German Poetry (Ginn & Co.), ed. 1913.

## **German II**

German Syntax and Composition, as in Horning—German Composition.

Texts : Schiller—William Tell (Macmillan & Co.); Goethe—Goetz von Berlichingen (Macmillan) ; Heine—Verse.

## **LATIN.**

**Latin I**—Grammar and Prosody, as in Bradley Arnold's Prose Composition.

Texts : Cicero—Pro Lege Manilla ; Horace—Odes, Book III.

**Latin II**—Grammar based on the prescribed texts.

Latin Prose Composition, as in—C. C. Ramsay Vol. I, Part II (Oxford University Press

Texts : Livy — Book XXI ; Catullus (Simpson).

## **GREEK.**

**Greek I** — Grammar as in—Bryant & Lake's Elementary Greek Grammar (Oxford University Press).

Translation at sight of passages of ordinary difficulty from Xenophon's Historical Works.

Greek Prose Composition : North & Hilliard, Exercises A, pp. 1 to 85.

Homer—Odyssey, Book VI

**Greek II**—Grammar. Translation at sight of easy passages from Greek into English. Translation of English into Greek based on North & Hilliard's Greek Prose Composition, pp. 1 to 155.

Texts : Plato—Apology ; Homer — Iliad XXII

## **HISTORY.**

**History I** — Canadian and British History.

Text Books : "Canada," Part I, Sir Charles Lucas—New France, History from Discovery and Settlement down to 1763. 2nd edition.

"Canada," Part II, H. E. Egerton — History under British Rule. (Oxford University Press).

The British Empire—Past, Present and Future. Selected chapters. (Published by the League of Empire).

**History II**—History of Modern Europe from the French Revolution to the Present Time.

Text Books: Morse Stevens—Revolutionary Europe (Rivington)

A. Phillips—Europe Since 1815.

Gooch—History of our own Times (Home University Library).

## **History of Architecture.**

Text Books : Lethaby—Architecture (Home University Library), Williams & Norgate.

Roger Smith & Slater—Ancient and Classical Architecture.

# **THE DOMINION OF CANADA—ITS CONSTITUTION, RESOURCES AND PROBLEMS.**

The Physical Features of Canada. Their influence on Canadian History and on the development of the Dominion at the present time. Natural and Political Sub-divisions. Natural Resources of the Dominion—Agriculture, forests, mines, fisheries, water-powers—their present yield and their capacity for future development. The Conservation Movement in Canada. The origin, growth, and distribution of the population in Canada. The Form of Government. The British North America Act. The Government Departments. The Manufacturing Industries of the Dominion. The Transportation System and the operations of the Railway Commission. Canadian Finances and the Banking System of Canada. The Movement Toward Co-operation and Government Control. Canada in the Future.

Text Books—No single text book covers the ground embraced by this course. The following books, however, contain much of the required information on most of the subjects mentioned :

Adams, F. D.—The National Domain in Canada and its Proper Conservation (Commission of Conservation, Ottawa).

Griffin, W.—Canada, the Country of the Twentieth Century (Department of Trade and Commerce, Ottawa).

Hurd, P.—Canada, Past, Present and Future. (Published for the Information Committee by Allen & Unwin, Ltd).

Greenwood, Hamar.—Canada as an Imperial Factor (The Nation's Library, Collins' Clear Type Press).

Herbertson & Howarth—The Oxford Survey of the British Empire. Vol. IV. Canada (Clarendon Press, Oxford).

Books of Reference—Canada and its Provinces (Glasgow, Brook & Co., Toronto).

The New Era in Canada (Dent).

The Annual Reports of the Commission of Conservation of Canada.

Report of the United States Commission on Banking in Canada. (Washington—Government Printing Office.)

## **MATHEMATICS. GEOMETRY.**

**Geometry I** as in—

Text Books: Baker—Geometry for Schools, (the whole) and Hall & Stevens — Geometry, Part 6, (Macmillan)

## **ALGEBRA.**

**Algebra I** as in—

Text Books: Hall & Knight—Elementary Algebra, (omitting Chapters 40 to 42 inclusive), or similar text book.

**Algebra II**—Miscellaneous theorems and exercises, exponential and other series, properties and solution of higher equations, complex numbers, graphical algebra, with an introduction to analytical geometry, indeterminate form limits, derivatives, slopes of curves.

Text Books : Rietz & Crathorne—College Algebra (Holt & Co.)

Smith & Gale—An Introduction to Analytical Geometry (Ginn & Co.), or

Baker—Analytical Geometry (Gage & Co.)

## **TRIGONOMETRY.**

### **Trigonometry I**

Text Book : Hall & Knight — Elementary Trigonometry, to page 210 and Chap. 19; nature and use of logarithms (Bottomley's Four Figure Tables), or same subject matter in similar text book.

**Trigonometry II**—Plane Trigonometry as in Trigonometry I (omitting Chap. XVIII of the Text Book), with special reference to solution of triangles and practical problems. Elementary Spherical Trigonometry as in—

Text Book : Murray—Spherical Trigonometry, or similar text book.

## **ANALYTICAL GEOMETRY.**

Elementary Course. The point, straight line, circle, parabola, ellipse and hyperbola, as in—

Text Book : Smith & Gale—Introduction to Analytical Geometry (Ginn & Co.) or

Baker—Analytical Geometry (Gage & Co.)

## **CALCULUS.**

Differentiation of functions of one or more variables, successive differentiations, tangents, etc., curvature, maxima and minima, integration in its application to areas, volumes, moments of inertia, as in—

Text Book: Murray—Differential and Integral Calculus, or Osgood—Differential and Integral Calculus (Macmillan.)

## **MECHANICS I.**

An elementary course in Dynamics, Statics and Hydrostatics.

Text Book: Loney—Mechanics and Hydrostatics for Beginners (Cambridge Press.)

## **MECHANICS II.**

As in Morley—Mechanics for Engineers (Longmans).

## **CHEMISTRY.**

**Chemistry I** (Agricultural). Inorganic Chemistry, laboratory experiments with lectures.

Reference Book: McPherson & Henderson—The Elementary Study of Chemistry.

**Chemistry II** (Agricultural). Animal Chemistry, Soil Chemistry, Organic Chemistry, Insecticides and Fungicides.

Text Books: Warrington—Chemistry of the Farm (Vinton & Co.)

Bulletin 195 (Ontario Agricultural College).

### **Chemistry III**

Text Book: Mellor, J. W.—Introduction to Modern Inorganic Chemistry (Longmans, 1918)

Students in the Faculty of Medicine must in addition take an elementary course in Organic Chemistry, as in—

Text Book: Dunstan, A. E.—A First Year Course in Organic Chemistry for Technical Institutes (Methuen & Co., Ltd.)

## **PHYSICS.**

### **Physics I** as in—

Text Book: Wright, M. R.—Sound, Light and Heat (Longmans).

### **Physics II** as in—

Text Book: Thompson, Sylvanus—Electricity and Magnetism.

### **Physics III**—

#### **(a) Elementary Hydrostatics.**

Three states of matter, principle of Archimedes, buoyancy, specific gravity of liquids and solids, pressure in liquids, atmospheric pressure, artesian wells, capillarity, osmosis, the barometer, general principles of weather forecasting.

**(b) Soil Physics.** Elementary physics of the soil, soil moisture, heat and air, principles of tillage.

**(c) Mechanics.** Units of Measurement, velocity, acceleration, force, energy, work, horse-power, friction, draft; practical study of simple machines, such as lever, windlass, pulley, etc.

Text Book : Lyon Fippin & Buckman—Soils, their Properties and Management (Macmillan).

## **Physics IV—**

**(a) Surveying and Drainage.** Measurement of fields and farm with the chain ; calculating areas and drawing plans ; use of various instruments for determining levels ; preparing plans of drainage, systems of draining ; practical work in soil physics.

**(b) Electricity and Magnetism.** Elementary Electricity and Magnetism ; Lightning and lightning protectors ; electric light ; storage batteries ; motors ; dynamos ; telephone ; telegraph.

**(c) Ventilation**—Principles, systems.

Text Book : King—Physics of Agriculture.

## **BIOLOGICAL SCIENCES.**

**Biology.**—Introductory Course as in—

Text Book : Abbott, J. F. — Elementary Principles of General Biology (Macmillan), with illustrative practical work.

**Botany I**—Seed and its germination—storage of food—roots, stem, buds, leaf, flower and fruits, practice in the identification of common plants, weeds and weed seeds—classification of plants.

Text Books Farm Weeds of Canada (Dept. of Agriculture, Ottawa).

Howitt—Farm Weeds of Ontario.

**Botany II**—Review of elements of botany. Anatomy, physiology, osmosis, transpiration, growth and reproduction, classification, weeds, fungi.

Text Book: Percival—Agricultural Botany.

**Botany III**—As in

Text Book: Bergen—Elements of Botany (Ginn & Co.), with illustrative practical work.

**Bacteriology**.—A general study of Bacteriology, history of the growth of the science, methods of studying Bacteria—form, size, structure, motility, reproduction, spore formation, sterilisation, pasteurization, chemistry of the Bacterial cell—food conditions affecting growth, Bacteria in relation to air and dust, water, sewage, barnyard manure, dairy, infected food, &c.

Text Book: Lipman—Bacteria in Relation to Country Life (Macmillan).

**Zoology**.—Conditions of Animal Life, principles of classification, description of

various types of animals, the embryology of the frog, chick and rabbit, the life cycle, adaptations, economic zoology.

Text Book: Jorden, Kellogg, & Heath—Animal Studies (D. Appleton & Co.), with illustrative practical work.

**Entomology.**—Insects, their life histories and habits. Anatomy, growth and metamorphosis, classification. Orchard, garden and farm insects. Beneficial and noxious insects. Insecticides.

Text Book: Slingerland—Economic Entomology.

## **GEOLOGY.**

Introductory Course. General survey of Physical and Structural Geology, Denudation and waste of land, deposition and the growth of continents, the structure of the earth, folds and faults, volcanoes and earthquakes, the common minerals and rocks. Outline of the History of the Earth. Economic Applications of Geology.

Text Book. Watts—Geology for Beginners (Macmillan), with Geological Excursions.

## **OSTEOLOGY.**

A discussion of some of the fundamental principles of human anatomy, proceeding to a consideration of the anatomy of the skeleton and the articulations.

# **LAW.**

## **Part I**

### **1. Legal History.**

Text Books: Jenks—Short History of English Law, or

Maitland—Lectures on the Forms of Action at Common Law.

Lecture Notes on the History of the Common Law Courts.

References to : Pollock & Maitland—History of the English Law.

Holdsworth—The History of English Law.

### **2. Contracts.**

Text Books : Anson—Contracts, or

Pollock—Contracts.

Caphorn—Selected Cases on Contracts.

References to : Chitty—Contracts.

Samuel Williston—An Essay on Illegality in Contracts. This Essay has been specially written for the students of the University by Dr. Williston, of the Harvard Law School.

### **3. Torts.**

Text Books : Underhill—Torts, or

Salmond—Torts, or

Pollock—Torts.

Kenny's—Cases on the Law of Torts.

References to : Beven—Negligence.

Odgers—Libel and Slander.

## **4. Personal Property.**

Text Books : Williams—Personal Property.  
Goodeve—Personal Property.

## **5. Criminal Law.**

Text Books : Kenny — Criminal Law or  
Odgers — The Common Law of England,  
Book II.

Lectures on Criminal Procedure by W.  
Blake Odgers. This series of lectures has been  
specially prepared for the Khaki University by  
Dr. Odgers, and is published by the University  
for the students in law.

Kenny—Cases on Criminal Law.

Reference to : Tremear — The Canadian  
Criminal Code.

Crankshaw—The Canadian Criminal Code.

## **6. Introduction to Equity.**

Text Book : Maitland—Lectures on Equity.

### **Part II**

#### **1. Equity.**

Text Books : Snell—Equity or  
Smith—Equity or  
Indermaur and Thwaites—Manual of Equity,  
or

Strahan and Kendrick—Digest of Equity.

Roscoe Pound — An Essay on Equitable  
Interests. This Essay has been specially  
written for the Khaki University by Dr. Pound,  
Dean of the Harvard Law School.

## **2. English Constitutional History and Law.**

Text Books: Maitland—Lectures on the Constitutional History of England, or

Anson—The Law and Custom of the Constitution.

Taswell Langmead—English Constitutional History, or

Dicey—Law and Custom of the Constitution.

## **3. Real Property.**

Text Books: Williams — Real Property.

Topham—Real Property. Seaborne—Vendors and Purchasers of Real Property.

## **4. Master and Servant.**

Text Book : Smith—Master and Servant.

## **5. Evidence.**

Text Books : Powell—Evidence or

Best—Evidence (Canadian Notes).

## **6. Commercial Law.**

Text Books : Smith—Mercantile Law, including Sale of Goods. Bills and Notes and Shipping, for such students as may require to study this branch.

Byles—Bills, or

McLaren—Bills, Notes and Cheques.

## **Part III**

### **1. Real Property.**

Text Books: Foa—Landlord and Tenant, or Clark—Landlord and Tenant.

## **2. Partnership.**

Text Books : Lindley—Partnership, or Pollock—Digest on Partnership.

## **3. Companies.**

Text Books : Palmer—Companies or Topham—Company Law.

References to Mitchell—Canadian Commercial Corporations.

## **4. Banking Law.**

Text Book : McLaren—Banks and Banking.

## **5. Canadian Constitutional Law.**

Text Books : Clement—Law of the Canadian Constitution or

Lefroy—Canada's Federal System, or

Lefroy—Leading Cases on Canadian Constitutional Law.

## **6. Private International Law**

Text Books : Dicey—Conflict of Laws or Westlake—Private International Law.

## **7. Public International Law.**

The Hague Conventions.

The Geneva Conventions.

## **8. Succession.**

Text Books : Holdsworth and Viccars—The Law of Succession, or

Kingsford—Executors and Administrators or Hawkins—Wills.

Reference to Jarman—Wills.

## **ENGINEERING.**

**Graphical Statics.**—Course dealing with composition of forces, general methods involving the use of funicular and force polygons, determination of reactions, centres of gravity, bending moments, moments of resistance, stresses in cranes, braced towers, roof trusses and bridge trusses.

Text Book : Crawford—Elementary Graphical Statics (Griffin & Co.)

**Mechanics of Machines.**—Kinematics and dynamics of machines. Constrained motion. Kinematic pairing. Velocity and acceleration of mechanisms, centrodes ; analysis and classification of simple mechanisms, including the quadric crank chain, the slider crank chain and various wheel trains : design of involute and of cycloidal wheel teeth. Work and power. The power and turning effort in prime movers. Inertia and the kinetic energy of revolving and reciprocating parts.

Text Book : Durley—Kinematics of Machines (Chapman & Hall or Wiley).

**Building Construction.**—Brick-work masonry, limes and cements, asphalt, roof girders, fireproof construction, heating and ventilation, plumbing, joinery, &c., building quantities.

Text Books: Mitchell, C. F. & G. A.—Building Construction and Drawing Part I Elementary Course (Batsford).

Mitchell, C. F. & G. A.—Building Construction and Drawing Part II Advanced Course (Batsford).

## **SURVEYING AND MAPPING.**

**Surveying.** The adjustment and use of the compass, sextant, chain and tape. The construction, adjustment and use of the transit, level, micrometer, and other field and office instruments. Topographical surveying. Town surveying. Surveyor's notes. Computations, etc.

Text Book: Baker & Dixon—Land and Engineering Surveying (Crosby Lockwood & Sons).

**Surveying Field Work.** A chain and compass survey. A transit and tape survey. Differential and profile levelling.

**Mapping.** Drafting from field notes of chain and angular surveys. The plotting of topographical features and the preparation of maps.

# **DRAWING AND DESCRIPTIVE GEOMETRY.**

**Drawing I**—Drawing instruments and how to use them. Drawing of geometrical figures. Construction and use of scales. Working drawings, lettering, dimensioning and tracing. Freehand sketching.

Text Book : Spooner—Engineering Workshop Drawing.

**Drawing II**—Sketching of parts of machines and preparation of complete working drawings from sketches. Lettering and blue printing.

**Drawing III**—Freehand drawing adapted more especially to the needs of students of the first year in Architecture. Drawing from casts. Classical ornament from the round.

**Architectural Drawing.** — Classical Architecture in line with projection of shadows.

**Architectural Design.** — Simple problems in monumental composition not involving complex planning.

**Descriptive Geometry.** — Projection of lines, planes and solids. Problems on the line and plane, plane figures, solids and surfaces, development of surfaces. Plane sections, tangents to surfaces, intersection of surfaces, shades and shadows.

Text Book : Tracy-North — Descriptive Geometry.

## **AGRICULTURAL SUBJECTS.**

**Soils.**—Formation, kinds, preparation of land, ploughing, etc., tillage, fertilisers, farm-yard manure, drainage, soil management, implements.

**Crops.**—Selection and judging of seed, methods of seeding, requirements of various crops, rotation, field crops, harvesting, preserving and marketing, implements.

**Livestock.**—Types, general types of horses, cattle, sheep and swine, judging, livestock.

Text Book: Harper—Animal Husbandry for Schools (Macmillan).

**Feeds and Feeding.**—Composition of the animal body, digestion, metabolism, rations for maintenance, growth, fattening, work, milk, wool, feeding standards, foods, concentrates, forage crops, roots, silage, etc.

**Farm Management.**—Capital, business principles (bookkeeping, preparation for market, marketing), planning for various purposes, such as mixed farming, dairy farming, etc., co-operation, keeping of records, utilization of labour, labour-saving devices, etc.

**Farm Engineering.**—Surveying the farm, drainage systems and operations, fences, buildings, farmhouse, stables, barns, etc., water and water supply, windmills, lighting, labour-saving devices for farm and home, concrete and its uses, gas engines and tractors, roads.

**Animal Husbandry.** — Breeds — horses, cattle, sheep and swine, judging, pedigrees and history.

Text Books : Davenport — Principles of Breeding (Quinn & Co.); Henry and Morrison — Feeds and Feeding (Vinton).

**Dairying I** — Importance of dairy industry, breeds of dairy cattle and their characteristics, selection and improvement of the herd, care and management, feeding, composition and value of milk, farm dairy equipment, care and handling of milk, separators and separation, butter making, milk testing, by-products.

Text Book : Dean — Canadian Dairying, Pt. I

**Dairying II** — The dairy industry in Canada, markets, home and foreign, factory work, location of factories, creameries, creamery equipment, cheese, factories and equipment, dairy refrigeration, ice-cold storage on the farm, bacteria and relation to milk, etc., cheese making, soft cheese making, judging butter and cheese, co-operation, some problems of dairy farm management, cow-testing associations, testing milk and its products.

Text Book : Dean — Canadian Dairying, Part II.

**Farmer's Woodlot.** — A study of the farm woodlot. Classification of forest trees. Planting, care and protection of trees about the farm.

Text Book : Ontario Bulletin, No. 209.

**Field Husbandry.**—A study of field and forage crops, their selection improvement and marketing.

Text Books: Hunt—Cereals in America (Routledge).

Shaw—Forage Crops (Routledge).

Shaw—Clovers (Routledge).

## **Horticulture I—**

(a) Pomology—Study of fruit growing.—Fruit districts of Canada, sites, soils and nursery stock.

(b) Small fruit culture. The growing of small fruits, their culture and management.

(c) Vegetable gardening. Truck gardening. Kitchen gardens. Allotment work. Methods of culture.

Text Books: Green—Vegetable Gardening (Webb).

Bailey — Principles of Fruit Growing (Macmillan).

Waugh—Beginners' Guide to Fruit Growing (Routledge).

## **Horticulture II—**

(a) **Orcharding.** Establishment and maintenance of home and commercial orchards. Selection of varieties—planting, fertilising, pruning, spraying, packing, storing and marketing.

(b) **Vegetable Culture.**—Production and sale of vegetables, methods of

harvesting, storing and marketing same. The construction and management of hot-bed and cold frames, control of insects and disease.

**(c) Planning and Improvement of Home Grounds.** Landscape gardening, care of lawns, walks, drives. The correct planting of trees, shrubs, and flowering plants about the home and for public grounds.

**(d) Floriculture.**—Commercial and amateur flower gardening. Greenhouse management.

Text Books : Maynard—Landscape Gardening (Chapman & Hale)

White — Principles of Floriculture (Macmillan).

**Poultry I**—An introduction to the study of poultry, kinds, types, breeds, care and management, judging.

Text Book : Harper — Animal Husbandry for Schools (Macmillan).

**Poultry II**—Study of the principles of breeding, finishing, killing, dressing, packing and marketing, judging, utility and fancy breeds.

Text Book : Robinson—Principle and Practice of Poultry Culture (Ginn & Co.)

**Veterinary Science I**—A simplified study of anatomy and materia medica, with practical instruction in horse judging and stable management.

**(a) Anatomy.** A Course of Lectures on the most important bones, joints, ligaments, muscles and tendons, the digestive, respiratory, urinary and genital organs, the circulating and nervous systems, the skin and its modifications of domestic animals.

**(b) Materia Medica.** The properties, actions, uses and doses of medicine for the prevention and cure of the ordinary diseases of farm stock.

**(c) Stable Lectures.** The construction, drainage and ventilation of stables, and the general care of horses, harness, carriages, etc.

**(d) Horse Judging.** Lectures with practical instruction.

Text Books : Thompson — Elementary Veterinary Lectures (Balliere); Reed—Veterinary Anatomy; Reed—Veterinary Materia Medica.

**Veterinary Science II.**—A Course illustrated when possible by charts, slides or animals, covering the more common diseases of live stock and the care and handling of breeding animals.

**(a) Pathology.** The causes, symptoms and treatment of the ordinary diseases and ailments of farm stock.

**(b) Obstetrics.** The care of breeding animals, with the causes, symptoms and treatment of diseases and accidents incident to the parturient state.

Text Book : Reed—Veterinary Pathology.

## **CORRESPONDENCE DEPARTMENT.**

For soldiers who are stationed in centres where the Khaki University has not an adequate staff of teachers, instruction in most of the subjects mentioned in this Calendar may be obtained through the Correspondence Department of the University. The subjects in which satisfactory instruction cannot be obtained in this way are those requiring laboratory work, such as Biology, Chemistry, etc. Soldiers wishing to obtain instruction in such subjects should endeavour to secure their transfer to one of the larger areas where there is a Khaki College.

For courses to be taken by correspondence, application should be made to the Correspondence Department, 31, Bedford Square, London, W.C. 1.

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